Alberta
CANADA

Introduction

Each year, the rapidly-evolving electronics industry in Alberta reaches new levels of sophistication and attracts a growing number of corporate players — particularly in the area of electronics manufacturing. The second edition of this directory is a reflection of the dynamic nature of electronics development in Alberta: it encompasses a number of new companies, as well as the established companies which have already attained international reputations in the electronics market.

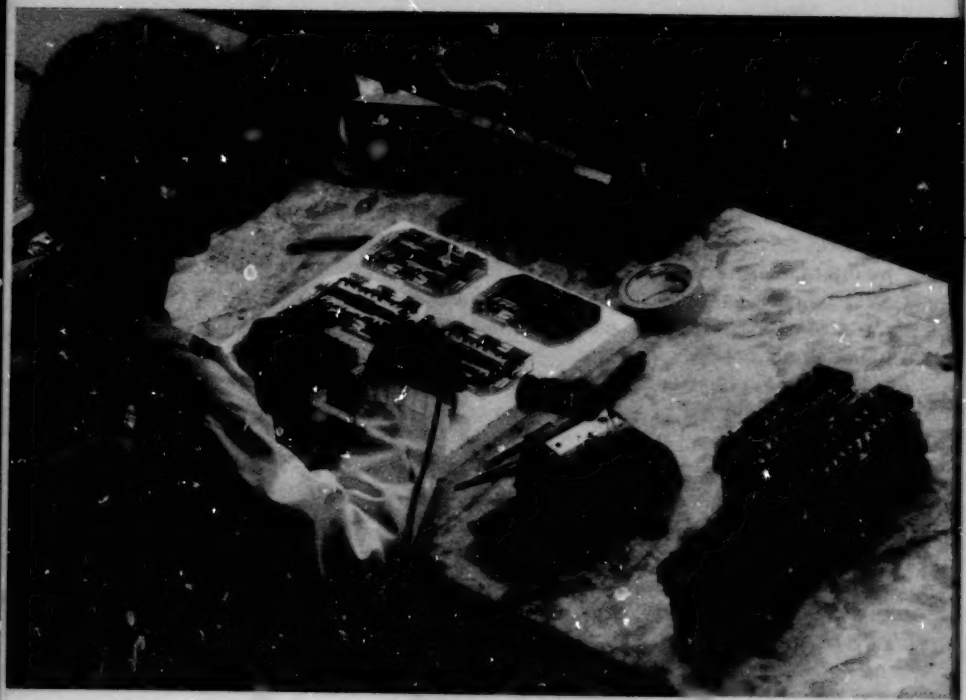
As is usually the case in the electronics industry, research and development in Alberta has evolved out of the combined efforts of both the private sector and centres of pure reseach. The flow of talent and information has produced a substantial pool of experts. Feeding the pool are excellent university programs in Edmonton and Calgary, which offer courses in computer engineering, computer science and electrical engineering. There is also a technical institute in each city, graduating technologists in electronics, telecommunications and computers.

Two research and development centres operate on the University of Alberta campus in Edmonton. The Alberta Research Council was founded in 1921 and has recently begun directing more of its attention to the electronics industry. The Alberta Microelectronic Centre has been established to assist firms in the application and development of microelectronic products.

Telecommunications has long been a cornerstone of the electronics industry in the province and Alberta Government Telephones is a major player in this area. In addition to its subsidiary, ALTA-CAN TELECOM Inc., which has a mandate to participate in joint ventures in fields of telecommunications and electronics, AGT is also part-owner of NovAtel Communications, which is involved in the design, development and marketing of telecommunications systems for the North American and international markets.

Bell Northern Research has located a major Western Canadian research centre in Edmonton, where the company engages in both applied and developmental research relating to fibre optic systems for telecommunications, software components and overall communications systems planning. Edmonton is also the site of Northern Telecom Canada Limited's Transmission Group Headquarters, while Calgary has many of the company's division offices.

Although much of the activity in Alberta's electronics industry is concentrated near Edmonton or Calgary, infrastructure and services for the industry can be provided in smaller communities around the province. Regardless of the Alberta locale, one important feature remains constant: Alberta's fine transportation links to major world centres and its proximity to the Western United States.



Alberta...
design capabilities
for complex printed
circuit boards.

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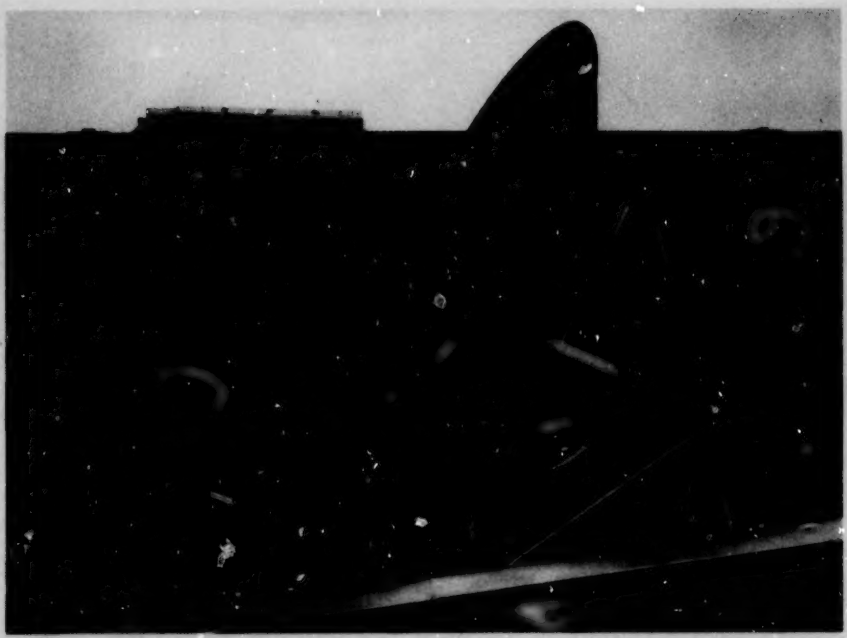
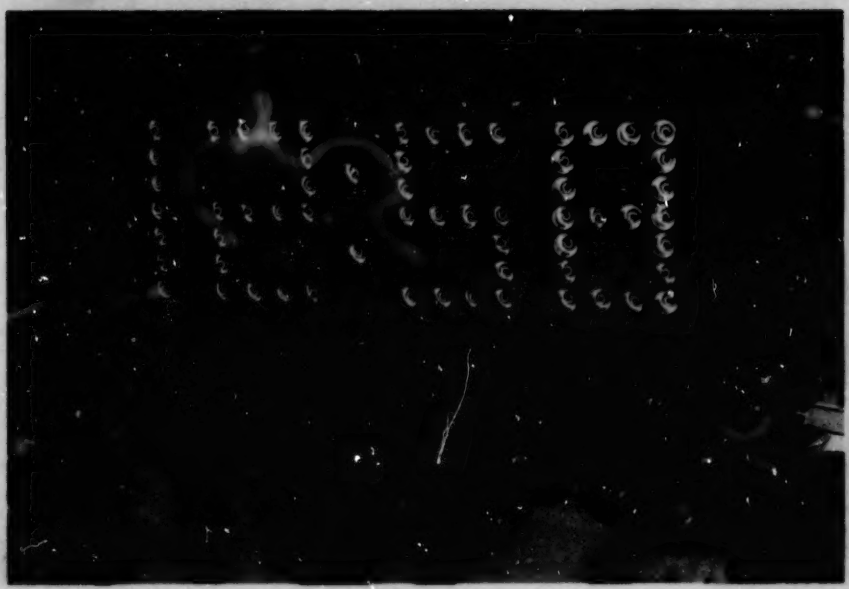
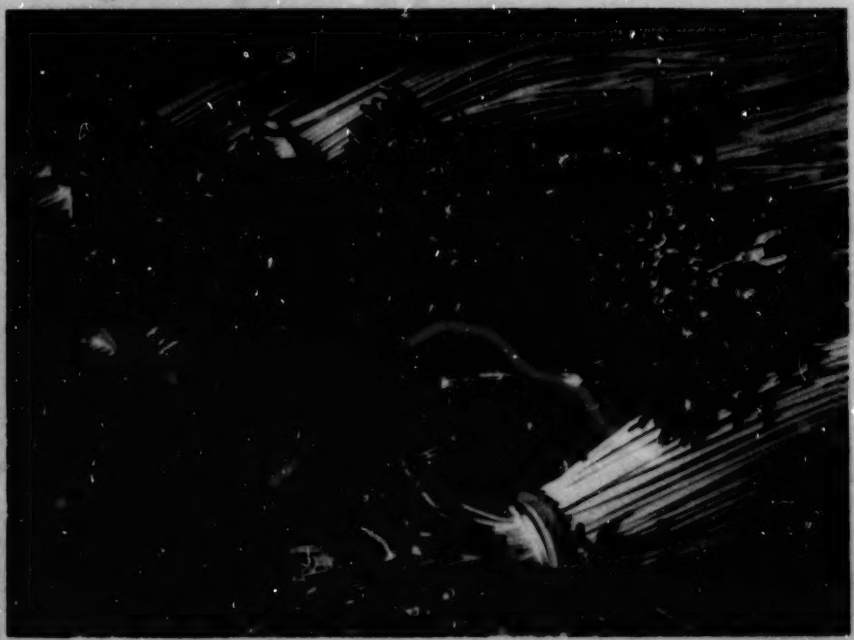
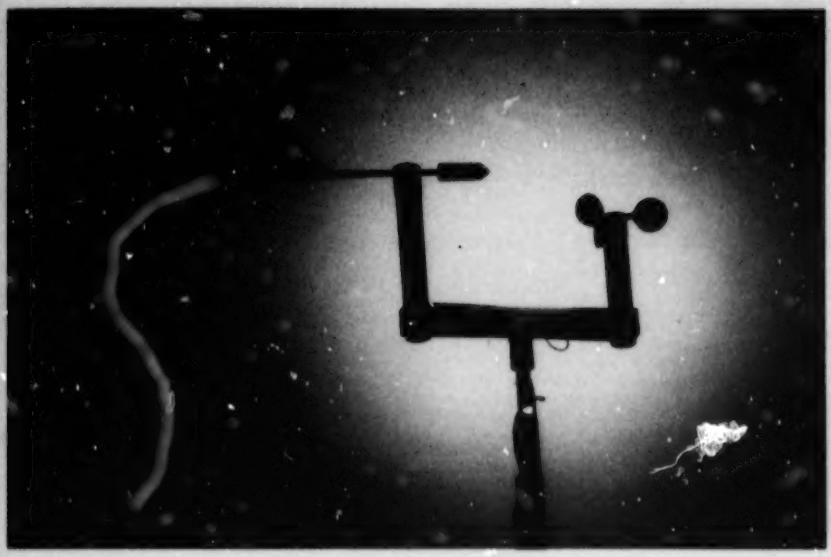




Alberta...
some of the most sophisticated telecommunications systems in North America; giving rise to an advanced

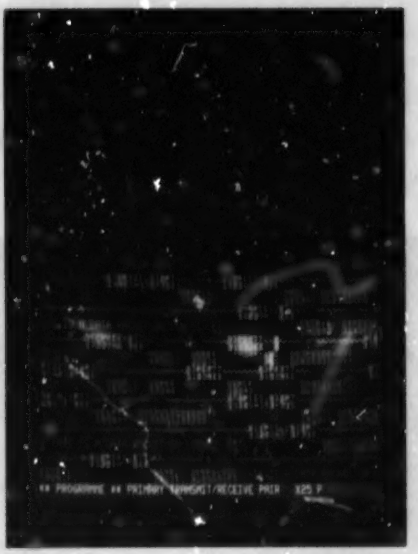


engineering capability.



Alberta...
many products made with a specific emphasis on reliability for operating under adverse conditions.

Alberta...
products which have found acceptance in many parts of the world because of their high quality, competitive prices



and service back-up.

Alberta...
benefits from a well-trained and dedicated labour force.

Aerotek Development Corporation Ltd.

Engineering and Administration Office
306 Fir Street
Sherwood Park, Alberta
T8A 2B3

Manufacturing and Marketing
The Computer Den Ltd.
11235 - 154th Street
Edmonton, Alberta
T5M 1X8

Brian J. Kryska, P. Eng. / President
Dan P. Kryska, P. Eng. / Vice-President
Chris Kowalczyk / Manager

Products and Services:

Custom high tech electronic, computer and computer-related products are being developed. Special high reliability and military specification design and manufacturing is offered, with most experience centering on the telecommunications and petroleum industries.

A broad range of services is offered in the electronics and electrical engineering fields including project management, software project management, software cost estimating, feasibility studies, predesign, design, electronic prototyping, parts procurement and construction, testing and maintenance services.

Marketing, manufacturing and after sales service aspects of this business have recently been separated into a new wholly-owned subsidiary, The Computer Den Ltd. Engineering consulting, design and management are handled by Aerotek Development Corporation Ltd. Aerotek began its operations in June 1981.

Engineering: **(403) 464-6399**
Sales: **(403) 451-5720**
Service: **(403) 451-5253**

Alberta Microelectronic Centre

Rm. 544, Electrical Engineering Building
University of Alberta
Edmonton, Alberta
T6G 2G7

Len Friedenburg / General Manager
Dr. Peter Jackson / Chairman of the Board
Dr. Peter Adams / Vice Chairman

Products and Services:

The Alberta Microelectronic Centre was established by the Electrical Engineering Department at the University of Alberta in cooperation with the federal government's Department of Industry, Trade and Commerce. Its objective is to assist in the transfer of microelectronic technology to Alberta industry by:

- assisting with product development from feasibility study phase to full production phase;
- assisting with grant applications and proposals for microelectronic funding programs;
- renting laboratory facilities, test equipment and microprocessor software development systems; and
- providing training courses on the benefits and applications of microelectronics.

A unique partnership of industry, university and government which provides Alberta industry with affordable access to the latest advances in technology, the centre places specific emphasis on such areas as CAD/CAM, robotics, programmable controllers, sensors, semi-custom integrated circuits and real-time software.

Contact: Len Friedenburg or Michael Cooney **(403) 432-3914**

Alltemp Sensors (1978) Ltd.

9149 - 35 Avenue
Edmonton, Alberta
T6E 5Y1

Cliff McLachlan / President
Paul Poechman / General Manager

Products and Services:

Alltemp Sensors (1978) Ltd. manufactures temperature sensors and temperature-related instruments, including thermocouples and resistance temperature detectors (RTDs).

The company began manufacturing in 1979, with initial activities directed towards the research market. An expansion in 1983 enabled the company to enter the industrial petrochemical market and, more recently, the commercial temperature products market. Alltemp Sensors is also involved in the resale of related temperature control and indicating electronic instruments.

Contact: Paul Poechman **(403) 463-7035**
Telex: 037-42813

Andor Scientific Services Ltd.

14227 - 130 Avenue
(P.O. Box 3911)
Edmonton, Alberta
T5L 4K1

G. Ramsey / President
J.T. Mitchell / Secretary Treasurer

Products and Services:

Laboratory health care products, such as electronic differential cell counters and pipet shakers; consulting and custom manufacturing of interface equipment for laboratory equipment to computers; repair and maintenance of laboratory equipment.

Andor Scientific Services was established in 1978 to distribute products to the laboratory market and provide repair and maintenance service to laboratory equipment. Since that time, the company has become involved in specialized computer interface problems and manufacturing.

Contact: Gerry Ramsey **(403) 451-1322**

Austec Electronics Ltd.

1006, 11025 - 82 Avenue
Edmonton, Alberta
T6G 0T1

W.K. Brokelsby / President
L.L. Brokelsby / Vice President

(403) 461-7500

Products and Services:

Radio tracking transmitters, with or without batteries, solar powered, for high impact use; radio tracking receivers; digital temperature readout; consulting services.

Austec Electronics Ltd. is a 'spin off' from the space tracking industry and is a specialist in RF transmission systems, based on thick-film technology. Very small, light (from 0.9 grams) transmitters were originally designed for animal, bird and fish tracking for biological research. Products are sold to biologists world-wide. Transmitters are used in conjunction with alarms and monitoring systems where telephone lines are not feasible and size is a major consideration.

Contact: L.L. Brokelsby **(403) 432-1878** or **433-4761**
Telex 037 41669, E1104

Baker Engineering Enterprises Ltd.

9620 - 27 Avenue
Edmonton, Alberta
T6N 1B2

P.J. Van der Zee / President and General Manager
Len Friedenberg / Assistant General Manager
James Baker / Engineering Manager
Gordon Baker / Plastics Manager
Geritt Pinnell / Marketing Manager

Products and Services:

Baker Engineering Enterprises Ltd. designs and manufactures a variety of electronic products for the agricultural market. Livestock control products and function monitors for farm machinery have been produced in considerable quantities. Custom-designed electronic controls for grain handling and processing plants are also manufactured and the company produces a complete line of reliable flow meters designed for use on mobile equipment.

In addition, the plastics division is equipped to design and manufacture plastic parts for the electronics industry. Complete mould design and fabrication facilities are available and custom injection moulded engineering parts are a specialty. Materials selection and product design assistance is also available.

Contact: P. J. Van der Zee **(403) 463-0922**
Telex 037-42726

Bartronics (1972) Limited

16204 - 116 Avenue
Edmonton, Alberta
T5M 3V4

Raymond J. Barnes / President
Gregory J. Barnes / Vice President
Gail P. Barnes / Secretary Treasurer

Products and Services:

Bartronics provides custom manufacturing and systems assembly of electronics equipment for all industries, but has concentrated its activities in the areas of telecommunications and transportation electronics. One of its communications products, a microprocessor-based mobile unit, is now in use by B.C. Hydro.

Bartronics is a wholly Alberta-owned company operating since 1972 in Edmonton. With a solid background in research and development work, it looks forward to future expansion, especially after a recent move to new and larger facilities.

Bartronics Head Office is located in Edmonton and the company is also represented in Vancouver, B.C., through Vancouver Mobile Radio Services.

Contact: Raymond J. Barnes **(403) 455-6032**

Bearspaw Logging Services Ltd.

103, 2827 - 18 Street N.E.
Calgary, Alberta
T2E 7K5

Fred Osachoff / President and Manager of Sales
Tad Salamon / Vice President, Technical Services
Wayne Wassman / Vice President, Finance

Products and Services:

Serving both the domestic and international markets, Bearspaw Logging Services Ltd. designs, manufactures and supplies computer-based hydrocarbon logging equipment and systems for use in the oil exploration industry.

A wholly Alberta-owned company, Bearspaw began operations in 1977. Originally concentrating in the service sector, the company moved into the manufacturing field in the early 1980s, becoming the first manufacturer of hydrocarbon logging systems in Canada. In 1981, Bearspaw also inaugurated a research and development program in conjunction with the federal government's Department of Industry, Trade and Commerce and now maintains a research and development facility where work continues on upgrading the company's products.

Contact: Tad Salamon **(403) 276-8814**
Telex 03-824590

Bell Northern Research

150 Karl Clark Road
Edmonton, Alberta
T6N 1E2

D.A. Chisholm / Chairman of the Board
J.A. Roth / President

Products and Services:

Fiber systems development; systems engineering; consulting services for fiber systems planning; rural community network planning, voice/data network planning, business communication systems and network planning, office systems planning.

Bell Northern Research-Edmonton established itself in September, 1980, the main functions being research and development.

Contact: Mr. Greg Mumford **(403) 461-7500**
Bell Northern Research- TWX 610-831-1795
Laboratories

Beta Electronics Ltd.

5951 - 103A Street
Edmonton, Alberta
T6H 2J7

Bruce McDonald / President
Norman Dyrvik / Director

Products and Services:

Beta Electronics Ltd. was incorporated in 1973. The company's focus is on the sales and service of electronic products, such as non-destructive test equipment (for example, flow detectors and pipe thickness testers), ultrasonic equipment and nuclear soil gauges. Beta sells Victor Technologies computers and Onyx minicomputers, as well as a number of other leading lines, and does custom manufacturing in industrial electronics.

Contact: Bruce McDonald or Norman Dyrvik **(403) 436-8363**

Beta Monitors and Controls Ltd.

6425 Bowness Road N.W.
Calgary, Alberta
T3B 0E6

Dave N. Schuh / President
Bryan R. Long / Treasurer
Brian C. Howes / Secretary

Products and Services:

Vibration monitoring equipment; performance monitoring, including engine/compressor analyzer; computer-aided maintenance planning; machinery control systems; customized data collection and reporting; and D201 predictive maintenance.

Beta Monitors and Controls Ltd. (BMC) was incorporated in 1979 with the purpose of design, development, manufacture and sales of hardware for vibration monitoring and control of industrial machinery. The company was formed by the senior personnel of Beta Machinery Analysis Ltd., a company which has supplied consulting services related to machinery dynamics and machinery trouble shooting since 1967.

Contact: Bryan R. Long **(403) 288-4641**
Telex 038-21172 CGY

Brooksar Data Corporation Ltd.

#10, 3610 - 29 Street N.E.
Calgary, Alberta
T1Y 5Z7

Brooks J. Fisher / President
S.A. Fisher / Secretary Treasurer

Products and Services:

Brooksar Data Corporation Ltd. was established in October of 1980 and is undertaking research and development related to the interface board product line the company is currently developing. These MUX units have over 30 applications each, based on existing software capabilities. The company also provides consulting services in interfacing, peripherials with processors, service and maintenance. The interface boards are marketed under the trade name of SKYMAN.

Contact: Brooks J. Fisher **(403) 291-0620**

Calgary Controls Ltd.

7056H Farrell Road S.E.
Calgary, Alberta
T2H 0T2

W.H. Lindenbach / President
J.J. Giebler / Secretary

Products and Services:

Calgary Controls was incorporated in Alberta in 1970 and manufactures specialized electronic instrumentation for the oil and gas processing industry.

The company supplies telecommunications products, including voice and data transmission and control equipment. It also provides process control products such as controllers and computing modules, DTMF ('Touch-tone') and voice frequency equipment, especially for two-way radio.

Calgary Controls has supplied specialized equipment to telephone and utility companies and to most major oil companies.

Contact: W.W. Lindenbach **(403) 253-6101**

Camcon Controls Ltd.

4815 - 34 Avenue N.E.
Calgary, Alberta
T1Y 1R7

A.B. Cameron / President
Paul Conkin / Secretary Treasurer

Products and Services:

Camcon Controls Ltd.'s major product is the 'CON-SERVE' Heat Control System for small warehouses. This system interlocks the doors and overhead fans with the heat control to prevent the loss of heat from a building when the doors are open.

Contact: Paul Conkin **(403) 250-2490** or
285-3265

Canadian Engineering Surveys Co. Ltd.

800, 10310 - Jasper Avenue
Edmonton, Alberta
T5J 2W4

D. Rae Sutherland / Board Chairman
Vic Wolchansky / President
Ed Walton / Vice President, Finance

Products and Services:

Electronic positioning services; design and maintenance of integrated navigation systems; design of data collection systems.

Canadian Engineering Surveys commenced operations as a legal survey firm in 1951. In 1967, as the need for remote positioning became apparent, the company expanded into radio positioning services. To keep up with industries' needs, the company designed and offered to its clients full real time surveying with integrated systems.

Contact: Joe Green **(403) 429-8700**
Telex 037-3850

Canutel Industries Ltd.

P.O. Box 469
College Heights, Alberta
T0C 0Z0

Hugo Wegmuller / President
Don Sinclair / Production Manager

Products and Services:

Canutel Industries Ltd. provides high-quality, low-cost insertion, assembly and testing of printed circuit boards in quick turnaround time for various companies in the telecommunications, agriculture, security and computer fields.

Canutel is located in a leased plant on the campus of Canadian Union College, between Edmonton and Calgary, Alberta. The 7,300-square-foot plant provides more than adequate space for the operations. An additional 5,000 square feet of space is available as needed.

Canutel is equipped with an Electrovert 10-inch wave soldering machine, a Detrex two-tank vapour cleaner degreaser and an Electrovert axial and radial lead cutter and former, as well as a specially-designed 66-square-foot heat chamber used in the testing of completed equipment.

Contact: Don Sinclair **(403) 782-4838**

Caulfield Engineering (A Division of Caulfield Creative Arts)

193 East Whitecroft
52313 Range Road 232
Sherwood Park, Alberta
T8B 1B7

David D. Caulfield, P. Eng. / President

Products and Services:

Computer analysis of marine and land shallow sub-bottom data; side scan digital display and analysis systems; custom microprocessor for navigation systems; process control computer development and servicing; low temperature computer development; custom STD-BUS interface boards; gas plant process control maintenance.

Caulfield Engineering resulted from the combining of seasoned Arctic oil and gas engineers and technicians who have developed hands-on experience in the extreme. The company maintains over 2,000 sq. ft. of office and laboratory space and has a comprehensive inventory of oceangraphic and electronic test equipment available. A small model machine shop is available for prototype construction, microcomputers for software development and an anechoic acoustic test tank for calibration of equipment.

Contact: David D. Caulfield, P. Eng. **(403) 464-4177** or **467-1380**
Telex 037-2697

Chimo Equipment Ltd.

100, 909 - 7 Avenue S.W.
Calgary, Alberta
T2P 1A6

Manufacturing Facilities
1801 - 8 Street
Nisku, Alberta
T0C 2G0

Robert W. Logan / President
Garry G. Barhurst / General Manager

Products and Services:

Chimo Equipment Ltd. designs, manufactures and markets electronic drilling instrumentation under the trade name 'WATCHDOG'.

A private Canadian-owned Alberta company, Chimo commenced operations in July, 1973. The company's engineering and technical staff are knowledgeable in the development and assembly of electronic systems and its service hands are well qualified and trained in the repair and maintenance of the company's equipment.

Chimo has gained prominence in the oilfield industry for its rentals, supplies and service.

Contact: Robert W. Logan **(403) 264-2245**
Telex: 03-826585

A. Comeau & Associates Limited

4718 - 9CA Avenue
Edmonton, Alberta
T6B 2P9

Alfred Comeau / President
Donald Kelly / Vice President

Products and Services:

Submersible pump motor protection controllers; heavy duty transient suppression filters; specialized control relays; annunciation controls; variable speed drives; electrical consulting, plant electrical design, power system surveys; electronic development and manufacturing; microprocessor applications development.

A. Comeau & Associates Limited was incorporated in 1976 as an electrical engineering consulting group. As a result of extensive field research, the company has developed equipment to improve control and minimize submersible pump failures. In 1981, the manufacturing facility was expanded to facilitate production of lightning protection equipment and testing of variable speed drives.

Contact: D.W. Kelly **(403) 465-9961**

Continental Laboratories Ltd.

An EG & G Company

3601-A, 21 Street N.E.
Calgary, Alberta
T2E 6T5

J.A. (Sandy) Pennington / Vice President, Operations
David Gibeau / Manager, Research and Development

Products and Services:

Continental Laboratories Ltd. designs and manufactures its own line of hydrocarbon detection and data gathering equipment for use in hydrocarbon well logging around the world.

The company's research and manufacturing facility is equipped to undertake the design, development and manufacture of specialized analog, digital and microprocessor-based equipment, from custom instrumentation to full-scale production and manufacturing.

Contact: J.A. (Sandy) Pennington or **(403) 230-2171**
David Gibeau Telex 03-821172

Datek Industries Limited

8522 Davies Road
Edmonton, Alberta
T6E 4Y5

P.J. Van der Zee / President and General Manager

Products and Services:

Computer data acquisition systems; hardware and software; pipeline monitor and control systems; gas and liquid totalizers; industrial controls; oil and gas well control systems; oil and gas custody transfer systems; remote controls; telemetry systems; environmental monitoring systems; printed circuits; circuit artworks and photography; telecommunications systems; and multi-bus computer systems.

Datek Industries Limited has been in business since 1971, filling the needs of the Alberta resource industry in microcomputer-based monitoring and control systems. The bulk of the projects undertaken involve microprocessors, which are all internally designed and manufactured. Significant hardware and software expertise is available and the company also has substantial hardware and software development facilities in-house.

Contact: P.J. Van der Zee **(403) 465-1530**

Digi Sign Co. Ltd.

3273 Parsons Road
Edmonton, Alberta
T6N 1B4

R. Paquette / General Manager
Larry Kelly / Chief Engineer

Products and Services:

Digi Sign is an Edmonton-based company which was incorporated in 1978 to provide design and fabrication of electronic displays, including time and temperature units, message centers, scoreboards and destination signs for buses. The company has produced many diverse products, including a standard line of cash register peripherals. Current emphasis is on outdoor message centers and museum exhibits.

Digi Sign recently completed six projects for the EPCOT center at Walt Disney World in Florida. The two most notable were a 60-foot curving message center using 24,000 LED's and a 14-foot tower containing 50 neon rings under computer control. A binary numbers display was also installed for IBM in the Chicago Museum of Science and Industry. Other products include interactive video displays, animated maps and one system for the CNE in Toronto in which a talking, moving robot rises from the floor to play a video-based quiz game. Digi Sign is also the major electronics display fabricator for the Edmonton Space Sciences Centre.

Contact: R. Paquette **(403) 463-5901**

EDO Canada Ltd.

8, 6320 - 11 Street, S.E.
Calgary, Alberta
T2H 2L7

John V. Watt / General Manager

Products and Services:

EDO Canada is a high technology product development company engaged in the manufacture of the JMR line of geodetic, dual channel, doppler satellite positioning instruments and data processing systems; as well as integrated marine navigation, survey control and data acquisition systems and related navigation sensor interface products.

The company provides equipment on a sale or lease basis, including the full line of EDO Western transducer, recorder, sonar and TV products.

EDO Canada Ltd. established operations in Alberta in 1983, following its acquisition of JMR Instruments Canada Ltd. EDO Canada looks forward to continuing to evolve its navigation products and to maintaining its position in international markets.

Contact: Frank Wiskar or Ann Cox
(403) 255-6667
Telex: 03-825895

EID Electronic Identification Systems Ltd.

17316 - 106 Avenue
Edmonton, Alberta
T5S 1H9

Richard E. Hamilton / President
Conrad N.B. Walker / Vice President, Technical
Keith Brockelsby / Senior Engineer

Products and Services:

EID Systems Ltd. manufactures automatic electronic identification systems for road and rail vehicles.

EID Systems Ltd. is a subsidiary corporation of CN Rail and began operation July 1. 1982.

Contact: Keith Brockelsby or Conrad Walker **(403) 486-0511**

Electro Controls

A Division of Control Lighting Ltd.

7035 Farrell Road S.E.
Calgary, Alberta
T2H 0T3

Robert Heninger / President
Max C. Harker / General Manager and Vice President
Peter Rogers / National Sales Manager
Linda Diamond / Office Manager

Products and Services:

The major activity of Electro Controls, A Division of Control Lighting Ltd., is custom design and manufacturing of lighting and control systems for stage, studio, architectural and residential applications.

Products include electrical and electronic dimming systems; stage, theatre and television studio lighting; architectural dimming systems; and lighting fixtures and accessories.

Control Lighting Ltd. was incorporated in Alberta in 1967. It is a wholly-owned subsidiary of Electro Controls of Salt Lake City, Utah, and has been in operation since 1957.

Contact: Robert Heninger **(403) 255-7716**
Telex 038-2569

Galvanic Analytical Systems Ltd.

9202 Horton Road S.W.
Calgary, Alberta
T2V 2X4

Mailing Address
P.O. Box 8550, Station F
Calgary, Alberta
T2J 2V6

Doug L. Fraser / President
Marguerite T. Fraser / Secretary

Products and Services:

Galvanic Analytical Systems Ltd. has specialized in supplying equipment capable of making precise, analytical measurements in various processes, such as Energy Management (Combustion) Systems and Risk Management Safety Systems.

The company is currently involved in research directed towards upgrading known techniques now being utilized by industry.

Galvanic Analytical Systems Ltd. has been in operation in Calgary since 1975 with a branch now located in Richmond, B.C.

Contact: Doug L. Fraser **(403) 253-6576**
In Alberta, call toll free 1-800-342-9759
Telex 038-22667

Global OA Systems Inc.

2206 - 10 Avenue S.W.
Calgary, Alberta
T3C 0K6

Conrad C. Kockerbeck / President
Warren B. Andersen / Director, Research and Development
Gloria B.N. Planidin / Director, Sales and Marketing
Terry J. Collin / Director, Development and Manufacturing

Products and Services:

Global OA Systems Inc. was incorporated in 1979 and is involved in electronic research and development.

Specializing in microprocessor-based data acquisition and control — specifically in temperature and pressure monitoring — Global has designed, manufactured and is marketing products in both the medical and industrial fields.

Global has a strong team of qualified consulting engineers and technicians who can successfully carry a product concept from development through to completion.

Contact: Gloria B.N. Planidin **(403) 245-2770**

Global Thermoelectric Power Systems Ltd.

Box 400
Bassano, Alberta
T0J 0B0

Donald W. Peterson / President
Gordon Hungerford / Marketing Manager

Products and Services:

Global manufactures thermoelectric generators, which are high reliability devices suited for power generation at remote, unattended telecommunications repeaters, and for other uses requiring up to 1 kw of DC power.

Since 1975, Global has carried on the development and marketing of thermoelectric technology originally developed by the 3M company.

One of only two thermoelectric manufacturers in the world, Global is a wholly Canadian-owned company active internationally in the telecommunications and petroleum industries.

Contact: Donald W. Peterson or Gordon Hungerford
(403) 641-3512
Telex 038-48141

Graphic Circuit Dynamics Ltd.

10B Rayborn Crescent
St. Albert, Alberta
T8N 3C7

M. Singh / President

Products and Services:

Graphic Circuit Dynamics Ltd. produces printed circuit boards, performs silk screening for front panels, and related activities. The company specializes in being able to produce prototype-activities of PC boards within 24 hours, as well as offering competitive pricing and delivery on large quantities.

Contact: M. Singh **(403) 458-3003**

Harding Instruments Company Ltd.

4608 - 97 Street
Edmonton, Alberta
T6E 5N9

Pat Harding / President
Keith Stromsmoe

Products and Services:

The company offers an electronic engineering consulting and design service with major expertise in a variety of areas: data acquisition; process control/process measurement; telephone/telecommunications; machine control; bio-medical electronics; applicaton processing of CSA and UL certifications.

Harding Instruments Co. Ltd. is a wholly Canadian-owned, Alberta-based company engaged in electronic consultation, design and manufacturing. Incorporated in the province of Alberta in 1969, the company is located in Edmonton and operates from a single facility. The company has also made a successful entry into the export market in the U.S.A.

Contact: Dale Allsopp **(403) 434-6434**

Hayley Industrial Electronics Ltd.

6814F - 6 Street S.E.
Calgary, Alberta
T2H 2K4

Noel Hayley / President
Peter Kohenke / Chief Engineer
Hal Douglas / Sales Manager

Products and Services:

Hayley Industrial Electronic's major product line is a complete range of battery chargers and eliminators, sine wave inverters, and all transfers, distribution panels and other components necessary for complete standby power systems. The company also manufactures several products for the agriculture, automotive and petrochemical fields.

Hayley Industrial Electronics Ltd. was incorporated in Alberta in 1978 and has designed and manufactured several products for industry. The complete design and manufacture of power conversion equipment is done in Calgary and Canadian products are used whenever practical.

Contact: Noel Hayley or Hal Douglas **(403) 259-5523**

Idacom Electronics Ltd.

4332 - 97 Street
Edmonton, Alberta
T6E 5R9

Walter Stein / President
Bill Davis / Executive Vice President, Research and Development
Horst Depner / Vice President, Marketing
Ken Wall / Vice President

Products and Services:

Idacom's major product is the IDA-XP Protocol Analyzer, which is primarily designed to monitor, emulate and intercept/modify serial data, but may also be used in a variety of other applications, such as a development aid (for example, in simulation).

Idacom Electronics Ltd. commenced operations in Edmonton on February 1, 1981, and is staffed by a group of engineers and technicians who are knowledgeable in the development and assembly of electronic systems.

Idacom's Edmonton headquarters contain complete manufacturing facilities.

Contact: Bill Davis **(403) 438-2468**
Telex 037-3315

The Industrial Science Group

10347 - 71 Avenue
Edmonton, Alberta
T6E 0W9

Don Gillis / President

Products and Services:

1. Satellite receive systems, including antenna systems, microwave receivers, converters, audio and stereo decode units;
2. Broadcast and communications equipment, including tape cartridge handling mechanisms, broadcast and recording consoles, amplifiers, television transmitter systems, cable systems and community broadcast systems;
3. Medical electronics, including digital heart rate monitor and alarm units, breaking monitors, ultrasonic stethoscopes;
4. Non-destructive test equipment, including ultrasonic thickness and corrosion gauges, flow detectors, immersion testers.

Contact: Don Gillis **(403) 437-6687**

Insight Industries Ltd.

P.O. Box 780
Airdrie, Alberta
T0M 0B0

Doug Christman / President

Products and Services:

Insight Industries Ltd. is primarily engaged in the research and development of new and/or improved products for industrial and commercial applications.

The company's major developments to date have been the Celene speaker, a speaker system using the Doppler effect; audio switching panels; and infrared sensing/timing systems. Other projects being researched and developed include robotics, CAD/CAM and an improved Doppler effect speaker system controlled by microprocessors.

Insight Industries Ltd. was incorporated in February of 1979 and consists of a small group of engineers and technicians who specialize in the research and development of electronic systems.

Contact: Doug Christman **(403) 948-6880**

Interalia Associates Ltd.

136, 1530 - 27 Avenue N.E.
Calgary, Alberta T2E 7S6

Cal Manz / President
Grant Olson / Secretary Treasurer

Products and Services:

Telecommunications and microprocessor design electronics.

Interalia Associates Ltd. was started in 1975. Its main activities are in the electronics area, in particular, microprocessor-based applications. All design, layout, hardware and software requirements are handled with in-house expertise.

Interalia Systems are being used in wire-line analysis, power demand and pollution monitoring and in many other specialized applications.

Contact: Cal Manz **(403) 230-3267**

International Ultrasonic Industries Ltd.

P.O. Box 1860
Strathmore, Alberta
T0J 3H0

John W. Baswick / President

Products and Services:

International Ultrasonic Industries Ltd. deals only with the technology of ultrasonics, offering research and development and engineering services to industry within this technology.

The only western manufacturer of ultrasonic equipment, the company specializes in custom built installations and has recently penetrated the medical industry with three major Alberta hospital installations.

Through its continuous research and development programs, International Ultrasonic is attempting to bring new products to the Canadian market. The company expects a major expansion in 1984.

Contact: John W. Baswick **(403) 934-2651** or
283-4140

Invertor Technology

Bay #6, 245 - 2 Avenue E.
Cochrane, Alberta
T0L 0W0

Mailing Address
P.O. Box 3874, Stn. B
Calgary, Alberta
T2M 4M5

Gord McMillan / President
Judy McMillan / Secretary Treasurer

Products and Services:

Radar intrusion alarms; satellite tracking systems; single, dual and triple output power supply devices; square wave power inverters; battery chargers; DC converters; square wave interruptable systems; sine wave inverters; U.P.S. inverters; and packaged line of circuit boards and chemicals.

Invertor Technology also manufactures printed circuit boards in the largest operating printed circuit board facility in Alberta.

Contact: Gord McMillan **(403) 932-5626**

King Byte Inc.

10214 - 147 St.
Edmonton, Alberta
T5N 3B9

Lonnie Nunweiler / President
Irene Nunweiler / Technical Editor

Products and Services:

King Byte Inc.'s custom-designed board — the King Con 16 — is an analog to digital converter, with 16 differential channels. Its 13-bit resolution is adequate for all but the most demanding applications. It will work with any computers that employ RS-232 serial communication. Currently, computers used with the converter are brief case portables for field measurement and IBM PC and compatibles for permanent installations.

Systems now in use in the oil and gas industry include:

1. Portable flow monitors, with ERCB approval, for spot-testing natural gas wells. They have proven to be both reliable and cost effective.
2. A compressor station monitor for continuous gas flow readings from various sites, replacing chart recorders. This system also includes an automatic back-up system. A flow control unit is being designed as an add-on package.

The software base is the language 'C', utilizing multi-tasking.

Contact: Lonnie Nunweiler **(403) 451-1571**

Lakewood Engineering Ltd.

9119 - 39 Avenue
Edmonton, Alberta
T6E 5Y2

Don Hlibka / President

Products and Services:

Lakewood Engineering Ltd. manufactures portable low-power data logging equipment (i.e. paperless remote chart records) and medium-sized radio and telephone remote telemetering systems. The company's services also include consulting and installation of supervisory control systems.

Lakewood Engineering Ltd. was formed in 1978 as a product development and engineering firm in the area of computer-based monitoring and control systems. Lakewood intends to become involved in high technology transfer to the Pacific Rim and extend its sales to other international markets.

Contact: Don Hlibka, P. Eng. **(403) 462-9110** or
461-5114

L-tronic Industries

P.O. Box 301
Linden, Alberta
T0M 1J0

Lyle Regehr / President
Glen Regehr/ Purchasing

Products and Services:

L-tronic Industries designs, manufactures and supplies electronic contol monitoring devices for use in the swine, poultry and dairy industries.

The company's wide range of customized products and systems include alarming systems, paging systems and data acquisition instrumentation. Emphasis is placed on environmental control and monitoring, particularly of humidity, temperature and oxygen levels.

A wholly Alberta-owned company, L-tronic Industries has been a Western Canadian leader in this area of electronics manufacturing since the company began operations in 1981.

Contact: Lyle Regehr **(403) 546-4188**

McAllister Petroleum Industries Inc.

#110, 2707 - 12 Street N.E.
Calgary, Alberta
T2E 7L5

Norman J. McAllister / President
Wayne L. Morrison / Vice President, Finance

Products and Services:

McAllister Petroleum Industries Inc. provides electronic instrumentation for surface and down hole pressure and temperature measurement, including well head monitor probes, conductor line digital pressure/temperature transmitters and electronic memory recorders. The company also offers annulus casing packers for production wells and drill stem testing tools and services.

McAllister has been in operation since 1980 and has facilities and personnel for in-house design, testing and manufacture. Research and development services are available through a subsidiary, McAllister Instrumentation Ltd.

Contact: Norman McAllister **(403) 250-3484**
or Telex 03-825684
Dave Kemick, DST Sales
Dennis Makar, Mechanical Tools
Robert Smallwood, Instrumentation

Micrologic Limited

#1, 3530 - 11A Street N.E.
Calgary, Alberta
T2E 6M7

Robert C. Atkins, P. Eng. / President

Products and Services:

Micrologic Limited is primarily involved with the development and manufacture of microprocessor-based instrumentation. The company specializes in custom instrumentation for the oil and gas industry, and its main products to date include a cassette data logger for harsh environments (-40 degrees Celsius operation); drill rig monitoring instrumentation; gas plant flow rate monitor/ emergency shut down electronics; and a microprocessor system bus analyzer.

Micrologic Limited began operation as a consulting engineering firm in 1977 and gradually evolved into a manufacturing concern to fill the requirement for custom instrumentation for oil and gas exploration. The company's early field experience has been an asset in the development of rugged field equipment.

Contact: Robert C. Atkins **(403) 276-6308**

Myrias Research Corporation

10762 - 82 Avenue
Edmonton, Alberta
T6G 2A8

Kenneth Gordon / President
James R. Savage / Director of Applications Research and Marketing

Products and Services:

Incorporated in December, 1982, Myrias Research Corporation manufactures and markets the Myrias 4000, a large parallel processor designed for cycle-intensive scientific and engineering applications.

Designed for both speed and reliability, the Myrias 4000 is ideal for real-time data and signal processing, such as radar image processing, air traffic control, battlefield assessment, sonar analysis, intelligence work and flight simulation; for system simulation, such as platform design, VLSI design, ballistics and vulnerability analysis; and for traditional numerical simulations, such as aerodynamics, seismic analysis, reservoir modelling, meteorology, high energy physics and plasma modelling.

Contact: Kenneth Gordon or James Savage
(403) 432-1758
Telex 037-42759

Northern Telecom Canada Limited

Transmission Group Headquarters:
22 Flr., Oxford Tower
10235 - 101 Street
Edmonton, Alberta
T5J 3G1
(403) 423-8020

Repair and Overhaul Division:
808 - 53 Avenue N.E.
Calgary, Alberta
T2E 6N9
(403) 275-2772

Business Products Division:
3705 - 35 St. N.E.
Horizon Ind. Park
Calgary, Alberta
T1Y 6C2
(403) 291-9000

Cable Division:
1940 Centre Avenue N.E.
Calgary, Alberta
T2E 0A7
(403) 272-5501

Digital Switching Division:
808 - 53 Avenue N.E.
Calgary, Alberta
T2E 6N9
(403) 275-2772

L.R. Campbell / Vice President, Transmission Group Headquarters
Dr. P.E. Jackson / Division General Manager, Business Products Division
T. McMaster / Plant Manager, Digital Switching Division
D. Harrison / Manager, Repair, Repair and Overhaul Division
D.J.S. Coward / Plant Manager, Cable Division

Products and Services:

Transmission Group: Optical fiber transmission systems, electronic multiplexing, line carriers, radio transmission.

Business Products Division: Vantage 12/48 Key telecommunications systems; SM-1, 1A2 key systems.

Digital Switching Division: DMS-100/200 systems, customer engineering.

Repair and Overhaul Division: Repair and overhaul telephone sets.

Cable Division: Outside plant cable, metals reclamation.

Northern Telecom manufactures equipment in 29 Canadian plants for telephone companies, educational institutions, governments, hospitals, offices and private homes.

Northwest Industries Ltd.

Edmonton International Airport
Edmonton, Alberta

L. Prokop / President
F.A. Maybee / Vice President

Mailing Address
P.O. Box 9864
Edmonton International Airport
Edmonton, Alberta
T5J 2T2

Products and Services:

Employing some 500 people, Northwest Industries Ltd. is one of Canada's largest and most experienced aircraft maintenance, repair, overhaul and modification centres for military and commercial aircraft, including the C-130 Hercules, the Dassault Falcon, T-33 and CL-41 jet trainers and the F-104 starfighter. The electronics department also specializes in the manufacture and assembly of electronic components and interconnecting cables.

The company also maintains an environmentally controlled instrument and electronics laboratory for the repair and overhaul of aircraft instruments and avionics equipment and for the design of airborne avionics packages and their installation.

Contact: F.A. Maybee **(403) 955-6300**

NovAtel Communications Ltd.

Suite 3108, Esso Plaza
425 - 1 Street, S.W.
Calgary, Alberta
T2P 3L8

James L. Green / President
Quentin Ball / Vice President, Business
J. Paul Belanger / Vice President, Operations, Calgary
Peter Kawchuk / Vice President, Sales, Canada/International
Alfred Koo / Vice President, Finance, Calgary,
Jerry McCarty / Vice President, Business Development, Calgary
Arunas Slekys / Vice President, Research and Development, Calgary
David A. Frye / Vice President, Sales and Operations, United States

Products and Services:

NovAtel Communications Ltd. is a Canadian company specializing in the design, development, installation and service of turnkey cellular radio communications systems and the manufacture of mobile radio telephones for the North American and international marketplace.

Jointly owned by NOVA, AN ALBERTA CORPORATION and Alberta Government Telephones, NovAtel is headquartered in Calgary, Alberta, with plant locations in Edmonton, Alberta; Toronto, Ontario; Brockville, Ontario; and Montreal, Quebec; with a new plant opening soon in Lethbridge, Alberta. A wholly-owned U.S. subsidiary, NovAtel Communications Inc., is located in Atlanta, Georgia.

Contact: Jim Kenney, Director, Canadian Sales, or **(403) 298-0444**
Ashok Panchmatia, Director, Telex 03-821264
International Sales

Nowsco Well Service Ltd.

Special Services Division

900, 715 - 5 Avenue S.W.
Calgary, Alberta
T2P 2X6

S.P. Shouldice / President
D.A. Richardson / Senior Vice President
A.J. Day / Vice President
R.G. Wells / Vice President

Products and Services:

Nowsco is a well service company specializing in cementing, acidizing and fracturing. The company began operations in Alberta in 1962 and then expanded throughout Canada, Europe, South East Asia and the northeastern portion of the United States.

The Special Services Division was created in 1979 to provide a team of highly-experienced individuals to work on more technically-specialized jobs. This team has been responsible for the development of instrumentation suited to the rigors of the 'oil-patch', an environment where vibration, temperature extremes, high humidity and inexperienced operators prevail.

Present designs include digital pressure, rate and total indicators; a strip chart recorder package; and an intercom communication system. Many other projects with oil field application are now in the design stage. Ongoing expansion of the manufacturing capabilities will allow the Special Services Division to market proven designs outside of Nowsco's corporate entity.

Contact: Garry Nanninga **(403) 261-2990**
Telex 03-825617

Palco Electronic Manufacturing & Supply Ltd.

7825 Flint Road S.E.
Calgary, Alberta
T2H 1G3

Peter Teppler / President
W.H. Teppler / General Manager
A. Bernardin / Plant Manager
H.W. Jamieson

Products and Services:

Since its inception in 1967, Palco Electronic Manufacturing & Supply Ltd. has grown steadily, providing telecommunications products and services to the various telephone companies in Western Canada. Today, Palco is regarded as the major independent telephone repair and overhaul company in Canada.

Palco, a Calgary-based company, and its wholly-owned subsidiary, Palco Telecommunications Inc., employ more than 90 people in the refurbishing of telecommunications equipment and supply of telephone related parts. The company's main thrust has always been that of producing "quality products and services". It is also always receptive to exploring new venture ideas.

Contact: W.H. Teppler **(403) 255-4481**

Polestar Communications Ltd.

#211, Mission Ridge Centre
St. Albert, Alberta
T8N 2G4

Bob Haagensen / President

Products and Services:

Since the summer of 1983, Polestar Communications Ltd. has been involved in the research, development and manufacture of a variety of products which relate to telecommunications. The first product to be marketed, a communications control console called the ATR-10, was first sold to a firm in West Germany. An HF radio receiver is also being produced in limited quantities and a companion transmitter will soon be available.

In its primary role as a systems house, Polestar has also designed and implemented most of the large communications systems being used in offshore drilling on the Canadian East Coast. Polestar is also the exclusive dealer in Canada, where resource industries are concerned, for Collins Radio Division of Rockwell International.

In addition, the company operates an HF radio station, with a range of approximately 2500 miles, near Waskatenau, Alberta, which offers communications capabilities to any company or agency operating in areas where no commercial communications exist. A second station is being built on a 21-acre site near Halifax, Nova Scotia.

Contact: Bob Haagensen **(403) 458-6364**
Telex 037-42509

Q.C. Data Collectors Ltd.

1200, 635 - 8 Avenue S.W.
Calgary, Alberta
T2P 3M3

G.E. Sawkins / Chairman of the Board
R.J. Hipkin / President
K.R. Maier / Vice President Finance

Products and Services:

Q.C. Data Collectors Ltd. provides digitizing services for well logs, contour maps, cross sections, base map shot points, seismic first break weathering plots and general graphic documents, as well as technical services, which include turnkey digitizing system hardware and software.

The company's major products are well log analysis systems, digital coal logger systems for field use and microcomputer-based automatic digitizing systems utilizng solid state raster scan image processing devices for the vectorization of graphical information contained on well logs, documents and microfilm.

Q.C. Data Collectors Ltd. was incorporated in Calgary in 1977 to design software to be used with standard computers to support the energy resource industry.

Contact: F.H. Willumsen **(403) 269-3306**

Q-Tron Ltd.

10, 7003 - 30 St. S.E.
Calgary, Alberta
T2C 1N6

B.M. Ruzek / President
A. Thompson / Secretary Treasurer
V. Juranek / Vice President

Products and Services:

The company provides electronic systems manufacturing and customer design services in the electronics field to industrial, oil and railroad sectors.

Major products are clock timers, axle pulse generators, speed control systems, transition and wheelslip panels and digital speed indicators.

Q-Tron Ltd. was established in December 1974 to provide electronic components to the oil and railroad industries.

Contact: B.M. (Bill) Ruzek **Bus: (403) 279-0805**
Res: (403) 272-2374

Quindar Products Ltd.

16, 5920 - 11 St., S.E.
Calgary, Alberta
T2H 2M4

Richard Gosling / General Manager
Allen Collins / Chief Engineer
John Hall / Controller
Ian MacMillan / General Sales Manager

Products and Services:

Quindar is recognized as a leader in the field of supervision and control and offers a complete range of systems and engineering services by a technical staff capable of handling complete projects. These include microprocessor and minicomputer-based alarm, monitoring, control and data acquisition systems that meet the rigid demands of all major electrical, petroleum, and gas utilities; communications common carriers; transportation companies; and government agencies.

Quindar Products Ltd. was founded in October 1960. Initially it designed and produced audio tone equipment for remote control and telemetry applications.

Contact: K.H. Harvey, Western Regional Sales Manager
(403) 255-5501
Telex 038-24619

Reggin Industries Limited

7023 - 5 Street S.E.
Calgary, Alberta
T2H 2E4

O.A. Reggin / President
W.W. Jack / Vice-President
A. Deines / Secretary
R. Pertil /Treasurer

Products and Services:

Electronic control panels which control and monitor the temperature and the humidity of the enclosure. The panel also has a fault system on the refrigeration compressor and evaporator in case of an interrupted electrical failure or a high or low temperature condition. Controllers can be used on environmental chambers, computer room systems, oil field control centres, etc.

Contact: Allen Hettinger **(403) 255-8141**
Telex 038-25660

Reliable Communication and Power Products Ltd.

6810F - 6th Street S.E.
Calgary, Alberta
T2H 2K4

Ken Mitchell / General Manager
Arnold Briese / Sales Manager

Products and Services:

Reliable Communication and Power Products Ltd. is a manufacturer and supplier of a wide range of protection and termination devices serving the telecommunications market.

The company's clients include all major telephone companies in Canada and it also supplies products to the interconnect industry.

Contact: Arnold Briese **(403) 253-8034**

Rigtronics Systems Ltd.

902 - 5th Avenue
Bassano, Alberta
T0J 0B0

Mailing Address
P.O. Box 400
Bassano, Alberta
T0J 0B0

Gary Gunthorpe / Manager
Larry Helgerson / Marketing Manager

Products and Services:

Rigtronics has a proven ability to solve various industrial and oilfield instrumentation problems with unique electronic/mircoprocessor technology. Products include the 'Mud Mole', a complete mud circulation monitor; the 'Compucab', a microcomputer taximeter; an electronic CNG pressure gauge; electronic tachometers; and pump stroke counters. Services include design engineering and fabrication of custom instrumentation.

Rigtronics Systems Ltd. is a subsidiary of Global Thermoelectric Power Systems Ltd. of Bassano, another high technology company.

Contact: L. Helgerson **(403) 641-3030**
Telex 03-84814

Russell Ultra-Sound Services (N.D.T.) Ltd.

4909 - 75 Avenue
Edmonton, Alberta
T6B 2S3

David E. Russell / President
Dale Hawkey / Marketing Manager

Products and Services:

Russell Ultra-Sound Services (N.D.T.) Ltd. has been providing non-destructive testing services since 1972 and supplying N.D.T. instruments for the past five years, including eddy current equipment; ultrasonic flaw detectors; ultrasonic thickness gauges; personal radiation safety alarms; radiation survey meters; darkroom digital timers; and darkroom digital thermometers.

A fully-modern, well-equipped laboratory is maintained for rapid and reliable calibration and repair service of product lines carried by the company, including lines manufactured by Russell Manufacturing, a division of Russell Ultra-Sound; Sonic Instruments; Hocking Electronics; and Stressteel Corporation.

Contact: Dale Hawkey; **(403) 469-4461**
Telex 037-2966

Sentrol Systems Ltd.

1, 6325 - 12th Street S.E.
Calgary, Alberta
T2H 2K1

W.L. Wright / Director of Sales, Special Projects

Products and Services:

Computer-based process control systems for a wide range of products, including the latest technologies in microprocessor-based process control systems, man-machine interface and high level software languages; broad range of services, from total project responsibility to specific individual services, such as project management, hardware system design and assembly, testing and maintenance.

Sentrol Systems Ltd. was formed in 1980 when Sentrol merged with S.A. Engineering Ltd., at Calgary. S.A. was established in 1977 as a process control engineering company and grew into the largest Canadian supplier of computer-based process control systems to pipelines.

Contact: W.L. Wright **(403) 253-8848**
Telex 038-25784

The Sentron Group

5309 - 97 Street
Edmonton, Alberta
T6E 5M6

P.F. Goldring / Managing Director
Bruce Nickerson / Managing Director

Products and Services:

Fire alarm equipment; hospital communications; apartment intercom; door alarm systems; clocks; school laboratories; electronics systems.

The Sentron Group was formed in 1969 and re-organized in 1978. The company manufactures, sells and services all the above mentioned products and sells and services school communication equipment and emergency lighting equipment. The Sentron Group also operates a sales office in Calgary.

Contact: Peter Goldring **(403) 437-5001**
Telex 037-41898

Sherrex Systems Ltd.

4196 - 93 Street
Edmonton, Alberta
T6E 5P5

Wayne Sherrard / President
Alan Johnson / Manager

Products and Services:

Sherrex Systems Ltd. has designed and continues to manufacture more than 30 high technology products. Most products are used by the industrial sector for control and monitoring of processes, buildings and computers. The company is also strong in the area of fiber optic communication products.

Sherrex Systems has been active in Edmonton since April, 1980. The company is comprised of engineers and technicians with a strong commitment to aggressive research and development and to providing highly reliable products.

Contact: Wayne Sherrard **(403) 462-4085**

Telecommander Instruments Limited

429 - 51 Avenue S.E.
Calgary, Alberta
T2H 0M8

A.T.G. Fairbrass / President
Paul Trudel / Vice President

Products and Services:

Cable checkers; trace transfer units; control panels; annunciators; power consoles; remote control systems; geophysical voltage standards; correlators; stackers; instrument cabins and field equipment; sales, installation and service of geophysical instruments.

Telecommander Instruments Limited is a wholly Canadian-owned company, formed and registered in Alberta in 1969, specializing in the design, manufacture and sales and service of electronic recording equipment for the seismic industry. The company designs and manufactures cabs and laboratories that provide and maintain the environment necessary for the continuous operation of sophisticated and delicate electronic equipment. These units are to be found in service throughout the world in every climate. Telecommander is continuously studying the opportunities that exist for future development and is now embarking on a program to increase its exports to countries developing their energy resources in the mineral and hydrocarbon fields.

Contact: A.T.G. Fairbrass **(403) 255-0505**

Telematic Controls 1979 Ltd.

No. 1, 9808 - 47 Avenue
Edmonton, Alberta
T6E 5P3

100 - 9805 Horton Road S.W.
Calgary, Alberta
T2V 2X5

Bill McClelland / President
Con Ekvall / General Manager

Products and Services:

Telematic Controls 1979 Ltd. is engaged in the sale and service of electronic equipment for monitoring flow, pressure and temperature. This includes non-invasive ultrasonic equipment for flow and energy metering; pressure transducers and transmitters; and analog to analog signal conditioning equipment. The company also manufactures thermally actuated flow sensing devices.

Contact: Con Ekvall **(403) 436-0511**
Telex 037-2702
Calgary office: **(403) 253-7939**

Traders Tec-Systems Controls Ltd.

P.O. Box 327
Bowden, Alberta
T0M 0K0

Dwayne Tester / President
Dave Thomas / Design and Manufacture Consultant

Products and Services:

Custom control panels for grain handling, seed cleaning, feed processing and materials handling systems.

Tec-Systems panels incorporate class II, 24-volt control circuitry, over-load and over-current motor protection and sequential interlocking mapped flow schematics.

Provisions for bin and shaft monitoring and programmable controller operation are also available.

Contact: Dwayne Tester **(403) 224-3666**

Trison Instruments Ltd.

435 Sioux Road
Sherwood Park, Alberta
T8A 4H2

L.L. Tachuk / President
K.F. Tachuk / Secretary Treasurer

Products and Services:

Airfield runway lighting control equipment; V.H.E. (Very High Efficiency) DC to DC power converters; multi-point high security telemetry and control equipment; custom manufacturing, including PCB facilities.

Trison recently introduced its latest product, the Century 4000 Microprocessor-Based Energy Management and Master/Slave Time Clock System. Although primarily intended for use in schools and hospitals, it has also found application in the process control area. The company expects to be marketing this product across Canada and the United States in the near future.

Trison Instruments was incorporated in 1969 and re-organized in 1978. The company occupies its own facility and maintains a complete fabrication plant.

Contact: L. Tachuk **(403) 467-1644**

Tundra Technical Industries Limited

9 Hangar, Municipal Airport
Edmonton, Alberta
T5G 2Z3

B. Parker / General Manager
V. Tomlinson / Manager, Aironics Department
V. Belcourt / Sales Manager, Communications Department

Products and Services:

Tundra has a technically-oriented staff to provide the design, installation and maintenance of HF/SSB radio communication systems; aircraft communications and navigational packages; VHF repeaters and unattended mountain top repeater systems; aircraft and marine nondirectional beacon systems; transportable communication and environmental monitoring centres; AM systems; trail radio systems and satellite earth stations.

Tundra Technical Industries Ltd. was incorporated in Edmonton in 1962, is located at the Municipal Airport Aviation depot and serves a local clientele, while the communications department's main thrust is toward the Northwest Territories and high Arctic, servicing oil and mining industry clients.

Contact: B. Parker **(403) 454-0788**
Telex 037-3680

Tycor Electronic Products Ltd.

9, 6115 - 3rd Street S.E.
Calgary, Alberta
T2H 2L2

Will Frey / President
Ray Rowson / Vice President, Marketing West
Bob Johannson / Vice President, Marketing East

Products and Services:

Tycor Electronic Products manufactures series (in-line) AC power line filters.

The company started its manufacturing operations in 1979. Large O.E.M. sales and third party maintenance groups account for 60 per cent of annual sales, which exceed $10 million.

Contact: Ray Rowson **(403) 259-3200**
or Telex 037-3680
Bob Johannson **(403) 496-0406**

Wellsdale Research Limited

Shipping Address
#6, 205 Chatelain Drive
St. Albert, Alberta

Mailing Address
P.O. Box 173
St. Albert, Alberta
T84 1N3

Robert J. Grauman / President
Glenn W. Sponagle / Secretary

Products and Services:

Meteorological equipment; hydrological equipment; remote data acquisition equipment; pollution measuring equipment; lightning detection and suppression equipment; photovoltaic power systems; system design, manufacture, installation and maintenance of meteorological, hydrological and pollution equipment.

Wellsdale Research Limited was established in 1979. Since that time, the company has designed, manufactured and installed various systems for clients such as Petro Canada, Hudson's Bay Oil & Gas, TransCanada Pipelines, Alberta Environment and foreign clients. It has also assisted Lightning Location and Protection Ltd., Tucson, Arizona, in designing a lightning detection system for the Atmospheric Environment Service of Canada.

Wellsdale Research has designed a very low power regulator for photovoltaic systems. The company offers a repair and calibration service for meteorological, hydrological and pollution measuring instruments. The experienced installation team will go anywhere in the world and has special experience in the Arctic. Wellsdale has designed and installed a continuous year-round photovoltaic powered automatic weather station on Ellef Ringnes Island, which is believed to be the most northerly photovoltaic powered operating system in the world.

Contact: Robert J. Grauman **(403) 459-0380**

Western Research

Division of Bow Valley Resource Services Limited

1313 - 44 Ave. N.E.
Calgary, Alberta
T2E 6L5

J. Lukacs, P. Eng. / Vice President, Environmental Group
E.M. Berlie, P. Eng. Division General Manager, Consulting & Technical Services
J.R. Elliott / Controller
M.C.J. Beamish, P. Eng. / General Manager, Process Instrumentation
P. Vetro, P. Eng. / General Manager, Air Quality Management

Products and Services:

Continuous stack emission monitoring systems; sulphur plant control instrumentation; sulphur dioxide gas analyzers; hydrogen sulphide process gas analyzers; total reduced sulphur emission analyzer system for kraft pulp mills; gas chromatographs; air quality monitoring instrumentation systems and service; complete environmental consulting services; contract research; process testing; source emission testing; process consulting; and waste gas incinerators.

Western Research originated as a consulting and service company in 1965 in Calgary. Since that time, Western has carried out considerable research and development with the objective of developing process monitoring and process control instrumentation for the gas processing and petroleum industries. The process instrumentation has over 300 systems installed worldwide with over 50 percent outside Canada. The company also has branch offices in Edmonton, Denver and California, as well as agents throughout the world.

Contact: M.C.J. Beamish **(403) 276-8806**
Telex 038-27569

Westronic Systems Ltd.

4520 Manilla Road S.E.
Calgary, Alberta
T2G 4B7

G. English / Chairman
D. McCardle, P. Eng. / President
T. Graham, P. Eng. / Vice President

Products and Services:

Westronic offers microcomputer-bassd supervisory controls and telemetry equipment and systems; F.S.K. tone equipment for data transmission and sequence of event recorders for monitoring and logging order of network conditions. Microcomputer boards are available for use as control master stations or remote terminal units.

Westronic Systems Ltd. was formed in May, 1980, from a group representing 50 man years of experience in the supervisory control field. The company has established itself as a leader in the field in Canada, in addition to being active in the U.S.A. and overseas through the subsidiary, WSL Telecontrol Inc. (U.S.A.).

Contact: T. Graham **(403) 243-3335**
Telex 038-26757

Willowglen Systems Ltd.

1, 1235 - 64 Avenue S.E.
Calgary, Alberta
T2H 2J7

Fergus Byrne / President
J. Malcolm Milne / Vice President, Marketing
George Blackstock / Board Chairman

Products and Services:

Major products are supervisory control and data acquisition (SCADA) systems and distributed process control systems. Application areas with largest installed base and complete software packages are: oilfield production SCADA, gasfield production SCADA, product oil and gas pipeline controllers and SCADA, microwave alarm systems SCADA, petrochemical plant process control and water utility distribution and plant SCADA.

Willowglen Systems Ltd. is a wholly-Canadian company with a head office and manufacturing plant located in Calgary, Alta. Founded in 1974, Willowglen has rapidly developed microcompuer-based product lines and a significant installed base in Canada. Willowglen is presently expanding its marketing efforts to areas for potential export.

Contact: J.M. Milne **(403) 253-3501**
Telex 038-25630

Categories of products and services listed by company:

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Vice President: Dr. John Kendall - University of Calgary
Secretary Treasurer: Jack Whyte - Futurtek Communications Inc.

The Electronics Industry Association of Alberta was officially formed by more than 20 companies in the electronics industry in Alberta in August, 1982. The primary functions of the association are to provide liaison with government agencies, promote the Alberta electronics industry throughout Canada and the world and provide resources to improve the level of professionalism of companies in the industry.

Contact with the Association can be made through its president or vice president, or through the Department of Economic Development, Government of Alberta.

The EIAA represents companies in virtually every area of electronics design, manufacture and service, with special emphasis on those areas supporting the resource, geodetic survey, telecommunciations and computer industries. The EIAA is a non-profit association, supported by private industry and taking its members primarily from the manufacturing sector. Representatives of governments, academia and public utilities are encouraged to join as associate members.

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